

REMARKS

Applicant is advised that should claim 26 be found allowable, claim 40 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. Claim 40 has been cancelled.

Claim 39 has been amended consistent with amended claim 26.

Claims 26 and 39 have also been amended to limit the fixing film forming polymer to one "consisting essentially of" the recited principal monomers. Midha *et al* does not teach a polymer consisting essentially of the recited principal monomers. This is especially true of the hydrophilic polymers individually disclosed at column 7, line 56 - column 8, line 19 (incorrectly considered by the Examiner as being polymers with a hydrophobic backbone and hydrophilic side chains as discussed in detail below). More specifically, all of these polymers contain a significant fraction of 2-methoxyethyl acrylate, vinylpyrrolidone, a poly(dimethylsiloxane) macromonomer and/or styrene.

Claims 41-48 have been newly added. The independent claims 41 and 45 limit the co-thickening agent to guar gum. By contrast, Midha *et al* only specifically discloses xanthan gum (column 16, lines 24-25). The dependent claims are more particularly directed to the preferred fixing film-forming polymer (a), preferred thickening agent (b) and preferred co-thickening agent (c) as exemplified in the Example.

Claims 26-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Midha *et al*. This rejection is respectfully traversed.

As pointed out in the response to the final rejection, the definition of graft copolymers in Midha *et al*. at column 5, lines 14-25, includes, *inter alia*, the statement that the graft polymers "... are characterized by a hydrophilic or hydrophobic polymeric backbone with a plurality of hydrophobic or hydrophilic polymeric side chains covalently bonded to and pendant from the polymeric backbone."

This definition includes the following groups of graft polymers:

- (1) hydrophobic backbone + hydrophobic side chains;
- (2) hydrophilic backbone + hydrophilic side chains;
- (3) hydrophobic backbone + hydrophilic side chains;
- (4) hydrophilic backbone + hydrophobic side chains;
- (5) hydrophobic backbone + hydrophilic and hydrophobic side chains; and

(6) hydrophilic backbone + hydrophilic and hydrophobic side chains.

Midha *et al.* specifically discloses only the *first two* groups of graft copolymers, *i.e.*, “hydrophilic graft polymers” listed at col. 7, line 56 to col. 8, line 20, and “hydrophobic graft polymers” listed at col. 8, line 59 to col. 9, line 10. By contrast, only polymers of group (3) are claimed in the present invention in combination with a first acrylic thickener and a second non-cellulosic thickener.

The Examiner has referred in the present Office Action to this argument as “averring the cited prior art not teaching the herein claimed graft copolymer as hydrophobic backbone + hydrophilic side chain.” The Examiner further states that “[i]n col. 7, line 56 to col. 8, line 20, Midha *et al.* clearly teaches graft copolymer with a hydrophobic backbone with hydrophilic side chain, which is, according to the remarks on page 3 of the response filed October 13, 2002, the herein claimed graft copolymer ... [t]herefore, Midha *et al.* still teaches the herein claimed copolymer.”

Applicant has not admitted that Midha *et al.* specifically teaches a graft copolymer with a hydrophobic backbone and hydrophilic side chains. The remarks on page 3 of the response filed October 13, 2003 are directed to Midha *et al.*'s generic teaching at column 5, lines 14-25. In fact, applicant expressly stated in these remarks that Midha *et al.* specifically discloses only the first two groups of graft copolymers, namely, hydrophobic backbone + hydrophobic side chains and hydrophilic backbone + hydrophilic side chains.

As the Examiner should appreciate, the mere fact that a claimed subgenus is encompassed by a prior art genus is not sufficient by itself to establish a *prima facie* case of obviousness. *In re Baird*, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994) (“The fact that a claimed compound may be encompassed by a disclosed generic formula does not by itself render that compound obvious.”); *In re Jones*, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992). Thus, Midha *et al.*'s teaching at column 5, lines 14-25 does not establish a *prima facie* case of obviousness.

In fact, size alone cannot support an obviousness rejection. See, *e.g.*, *In re Baird*, 29 USPQ2d at 1552 (observing that “it is not the mere number of compounds in this limited class which is significant here but, rather, the total circumstances involved”). Thus, even a prior art genus containing only a small number of members does not create a *per se* rule of obviousness. Some motivation to select the claimed subgenus must be taught by the prior art. See, *e.g.*, *In re Deuel*, 34 USPQ2d at 1215 (“No particular one of these DNAs can be obvious unless there is

something in the prior art to lead to the particular DNA and indicate that it should be prepared.”); *In re Baird*, 29 USPQ2d at 1552; *In re Bell*, 26 USPQ2d at 1531.

In considering the size of the Midha *et al* genus at column 5, lines 14-25 and the question of motivation, it is pointed out that one of ordinary skill in the art would know that the physico-chemical properties of the groups of polymers disclosed by Midha *et al* (e.g., solubility in water or in non-polar solvents, thickening effect, electrostatic or hydrophobic interaction with other ingredients, intra- and interchain interactions, affinity for the keratinic cosmetic substrate) strongly depend on the respective fraction of hydrophilic/hydrophobic monomers or hydrophilic/hydrophobic blocks. This is confirmed by the teaching in Midha *et al*. that “[t]he graft polymers are especially *versatile* in that the polymeric backbone and the attached macromonomer grafts can have select or different chemical physical properties which collectively provide the optimal formulation or performance profile....” (see column 1, lines 28-34).

Referring now to the Examiner’s contention that Midha *et al* does specifically teach the herein claimed graft copolymer having a hydrophobic backbone and hydrophilic side chains at column 7, line 56 to column 8, line 20, this contention is respectfully traversed. Midha *et al* disclose at column 7, line 56 - column 8, line 19 four graft polymers which are expressly taught to be *hydrophilic*. The first three polymers contain a significant fraction of acrylic or methacrylic acid both in the backbone and in the side chains. These acidic monomers are “used in at least partially neutralized form to promote solubility or dispersability of the polymer” (see column 8, lines 23-24). When neutralized, these monomers are anionic, thus making the polymer backbone and the side chains hydrophilic.

According to the Examiner, methacrylic acid is a hydrophobic monomer because the methyl functional group is a hydrophobic group. This argument completely ignores the acidic functional group making this monomer hydrophilic. If it were true that methacrylic acid is a hydrophobic monomer, then not only the polymer backbone but all side chains of the first three polymers would also be hydrophobic since they contain methacrylic acid and styrene or methacrylic acid and isobutyl methacrylate. This passage of Midha *et al* then would disclose *hydrophobic* polymers and not, as alleged by the Examiner, polymers having a hydrophobic backbone and hydrophilic side chains. Moreover, it is impossible to interpret this passage as

disclosing *hydrophobic* polymers since Midha *et al* explicitly disclose “hydrophilic graft polymers” (column 7, line 56).

The description of the fourth polymer in Midha *et al* (column 8, lines 14-19) is internally inconsistent. Indeed, there is a strong contradiction between the formula of the polymer (side chains consisting of styrene and methacrylic acid) and the composition of this polymer (40% vinyl acetate, 39% vinylpyrrolidone, 1% chlorovinyl acetate, 10% isobutyl methacrylate and 10% dimethylaminoethyl methacrylate).

To summarize the above, Midha *et al* clearly does not teach the herein claimed graft copolymer. Moreover, the subject matter of the present invention is *not* the use of the specific branched block copolymer for hair styling compositions. This use has already been described in WO 00/40628. The subject matter of the present invention is a special combination of at least two thickening agents, *i.e.*, an acrylic thickening agent and a non-cellulosic *cothickener*, in cosmetic compositions containing the specific branched block copolymers described in WO 00/40628.

The use of *at least two thickening agents* - one being an acrylic thickener and the other a non-cellulosic thickener - is neither disclosed nor suggested by Midha *et al*. The only hair styling gel (Example 17) contains a single acrylic thickener (Carbomer ®940). As already explained in previous responses, one of ordinary skill in the art would have had no reason to add a second polymer thickener (*e.g.*, guar gum) since 0.5 weight % of the acrylic thickener (Carbomer 940) gave satisfactory gelification of the hair styling gel containing the Graft copolymer 1.2 of Example 17 of Midha *et al*.

Referring to the Example in the instant application, the fact that such a satisfactory gelification could not be obtained when using 1.4 weight % of an acrylic thickening polymer in combination with the specific claimed fixing polymer (see composition C of the Example of the present application) shows that there is a *distinction with a difference* between the graft copolymers of Midha *et al*. and the branched block copolymers of the present invention.

In addition to the above, the comparative examples of the present application clearly show that the claimed thickener combination of an acrylic thickening polymer (b) and a **non-cellulosic** co-thickening polymer (c) imparts a considerably higher viscosity (2.540 Pa.s) to compositions containing the fixing polymer (a) than does a thickener combination containing an

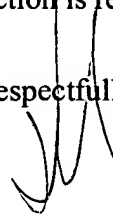
acrylic thickening polymer (b) and a **cellulosic** cothickener (1.480 Pa.s). Thus, the use of a non-cellulosic co-thickener such as guar gum is unobvious over the cited prior art.

Attached hereto is a marked-up version of the changes made to claim 39 by the current amendment. The attached page is captioned **"Version with markings to show changes made."**

Attached is a check in the amount of \$102 to cover the fee for one additional independent claim over 3 and one additional dependent claim over 20. Should this fee be in error, the Commissioner is hereby authorized to debit or credit Deposit Account 19-4293.

In view of the foregoing, early and favorable action is respectfully requested.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

26. (Twice amended) A cosmetic composition, comprising a cosmetically acceptable carrier containing:

(a) at least one fixing film-forming polymer which is a branched block copolymer [comprising] consisting essentially of, as principal monomers, (1) at least one monomer selected from the group consisting of C₁₋₂₀ alkyl acrylate, N-mono-(C₂₋₁₂) alkylacrylamide, N-mono-(C₂₋₁₂) alkylmethacrylamide, N,N-di-(C₂₋₁₂) alkylacrylamide and N, N-di-(C₂₋₁₂) alkylmethacrylamide, and (2) at least one monomer selected from the group consisting of acrylic acid, methacrylic acid, and acrylic and methacrylic acids, the polymer having a structure comprising hydrophobic blocks onto which more hydrophilic blocks are attached via bi-functional units,

(b) at least one thickening agent which is a cross-linked or non-cross-linked homopolymer or copolymer based on acrylic acid or methacrylic acid or acrylic and methacrylic acid, and

(c) at least one co-thickening agent which is a non-cellulosic thickening polymer different from thickening agent (b).

39. (Amended) A method for the styling and fixing of hair, comprising applying to the hair a cosmetic composition comprising a cosmetically acceptable carrier containing:

(a) at least one fixing film-forming polymer which is a branched block copolymer [comprising] consisting essentially of, as principal monomers, (1) at least one monomer selected from the group consisting of C₁₋₂₀ alkyl acrylate, N-mono-(C₂₋₁₂) alkylacrylamide, N-mono-(C₂₋₁₂) alkylmethacrylamide, N,N-di-(C₂₋₁₂) alkylacrylamide and N,N-di-(C₂₋₁₂) alkylmethacrylamide, and (2) at least one monomer selected from the group consisting of acrylic acid, methacrylic acid, and acrylic and methacrylic acids, the polymer having a structure comprising hydrophobic blocks onto which more hydrophilic blocks are attached via bi-functional units,

(b) at least one thickening agent which is a homopolymer or copolymer based on acrylic acid or methacrylic acid or acrylic and methacrylic acid which is cross-linked or non-cross-linked, and

(c) at least one co-thickening agent which is a non-cellulosic thickening polymer different from thickening agent (b), wherein the composition has a viscosity of at least about 1.9 Pa.s.

Claims 36 and 40 have been cancelled.

New claims 41-48 have been added.